

**ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM**

Plant Abstract

Element Code: PMLIL02320

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Allium rhizomatum* Wooton & Standl.
COMMON NAME: Red Flower Onion
SYNONYMS: *Allium glandulosum* sensu Ownbey, non Link & Otto
FAMILY: Liliaceae

AUTHOR, PLACE OF PUBLICATION: Wooton and Standley, Contr. U.S. Natl. Herb.
16(4): 114. 1913.

TYPE LOCALITY: Vicinity of Gila Hot Springs, New Mexico, USA.

TYPE SPECIMEN: HT: US-690251. E.O. Wooton s.n., 20 August 1900.

TAXONOMIC UNIQUENESS: *Allium* is a widespread genus with about 500 species distributed worldwide (Hickman 1993), with around 108 species in North America (USDA, NRCS 2004), and 12 species in Arizona (Lehr 1978). Some botanists consider *A. rhizomatum* to be a synonym of *A. glandulosum* (Kartesz July 1999, draft Floristic Synthesis, etc.), while others consider them to be distinct species. John Anderson (BLM, 1999 Pers. Comm.) considers *A. glandulosum* to be a Mexican species and what we have in Arizona is *A. rhizomatum*. This follows what is reported by Sivinski (2003, reprint from 1998), "*Allium rhizomatum* belongs to a highly variable group of mainly Mexican plants with complex and confusing nomenclature. Hamilton Traub (1967, 1968) caused much of this confusion by naming more than a dozen new species in Mexico, and only offering vague descriptions of their delimiting characteristics and distributions. He did, however, convincingly separate *A. rhizomatum* from *A. glandulosum*." Based on these two discussions, the Arizona Heritage Data Management System is following the scientific name *A. rhizomatum* for the plants found in Arizona.

DESCRIPTION: Herbaceous perennial bulb. Bulbs solitary, 1.0-2.5 x 1.0 cm, subspherical, replaced annually by new bulbs borne terminally on the rhizome; rhizomes 1-3, slender, 2-3 cm, scaly; the bulb scales not reticulate. Leaves persistent, 2-3 per bulb, 2.0-3.0 mm wide, 20-35 cm (8-14 in) tall, flat, margins entire, green at anthesis. The scape (flowering stalk) is solitary, erect, terete, 20-30.0 cm (8-12 in) tall, round in cross section, branching at the tip, the branches 1.0-2.0 cm long, few (2 or 3 per bulb). The persistent umbel is erect, loose, 5-15(-22) flowered, globose to hemispheric, bulbils unknown; the spathe bracts are persistent, 2, 3-veined, ovate to lance-ovate, with acute apex. Flowers are stellate, 6-9 mm, the corolla campanulate-spreading; tepals are erect, white to pink (often drying pinkish) with purple,

pinkish or dark red-purple midvein, oblong to lanceolate, becoming papery in fruit, margins entire, apex acute to acuminate. Stamens are included, equal to the perianth; anthers yellow, pink or red-purple (drying brown); pollen yellow or white. The ovary is crestless, 3-grooved with thickened ridge on either side of groove; style linear, shorter; stigma capitate, unlobed; pedicel 10-20(-50) mm. Seed coat shining. (Correll and Johnston et al. 1970; Sivinski 2003, reprint from 1998; FNA Editorial Committee, eds. 1993+).

AIDS TO IDENTIFICATION: *Allium rhizomatum* can be distinguished from *A. glandulosum* by its pale perianth (color mainly confined to the midribs), and by its 3-lobed, apically 3-grooved ovary and lack of sepal glands. *Allium glandulosum* has a red perianth, an apically rounded ovary, and sepal glands. (M. Ownbey in Kearney and Peebles 1951; FNA Editorial Committee, eds. 1993+).

ILLUSTRATIONS: Color photo of Holotype collection (E.O. Wootton 1900, in <http://ravenel.si.edu/botany/types/fullRecords.cfm?myFamily=>)

TOTAL RANGE: Western Texas, southwestern New Mexico, southeastern Arizona.

RANGE WITHIN ARIZONA: Huachuca, Mule and Chiricahua mountains in Cochise County, Canelo Hills in Santa Cruz County.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Herbaceous perennial.

PHENOLOGY: Flowers July - September.

BIOLOGY: Bulbs reproduce with slender scaly rhizomes.

HABITAT: Grassy mountain slopes, grasslands, along streams, moist rocky places, and juniper-oak woodland. In New Mexico, "it occasionally occupies relatively dry ridges and pockets of sandy soil on rock outcrops." (Sivinski 2003, reprint from 1998)

ELEVATION: Approximately 4,400 - 7,000 [to 8500?] feet (1320-2100 (2550?) m). FNA (Editorial Committee, eds. 1993+) reports elevation for North America from 1200-2200 m (3,934-7,213 ft).

EXPOSURE: All aspects, but often north and east-facing slopes in Arizona.

SUBSTRATE: Known from granite and limestone substrates. Probably found on others as well, based on known collection locations.

PLANT COMMUNITY: Madrean evergreen woodland and semi-desert grassland communities, as defined by Brown (1994). Associated species in Madrean evergreen woodland of Mule Mountains include: *Juniperus deppeana* (Alligator juniper), *Pinus discolor* (Border Pinyon), *Quercus arizonica* (Arizona oak), *Quercus emoryi* (Emory's oak), and *Quercus toumeyii* (Toumey's oak). In the mountains of southwestern New Mexico, it can be found with ponderosa pine forest down to piñon-juniper-oak woodlands (Sivinski 2003, reprint from 1998).

POPULATION TRENDS: Unknown.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS:	None.
STATE STATUS:	Salvage Restricted (ARS, ANPL 1999) [Salvage Restricted (ARS, ANPL 1993)]
OTHER STATUS:	Forest Service Sensitive (USDA, FS Region 3 1999) None (USDI, BLM AZ 2005) [Bureau of Land Management Sensitive (USDI, BLM AZ 2000)]

MANAGEMENT FACTORS: "Does not warrant specific concern in management plans by Coronado National Forest. Current grazing and recreational activities in the area probably will not hurt the plant" (Arizona Natural Heritage Program 1982).

CONSERVATION MEASURES TAKEN: Because this species is subject to damage by theft or vandalism, it is listed as Salvage Restricted in the Arizona NPL.

SUGGESTED PROJECTS: Genetic research should be performed on *Allium rhizomatum* and *A. glandulosum* to clear up any taxonomic problems associated with *A. rhizomatum*. Surveys should be performed in the known range of *A. rhizomatum* to better understand the distribution of this species.

LAND MANAGEMENT/OWNERSHIP: USFS - Coronado National Forest (Douglas and Sierra Vista Ranger Districts); State Land Department, and possibly private.

SOURCES OF FURTHER INFORMATION

REFERENCES:

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

- John Anderson - Bureau of Land Management, Arizona State office, Phoenix, Arizona.
- C.T. Mason - former University of Arizona Herbarium curator, Tucson, Arizona.
- Robert C. Sivinski – New Mexico Forestry Division, P.O. Box 1948, Santa Fe, New Mexico 87504.
- George Yatskievich - Missouri Dept. of Conservation, St. Louis, Missouri.

ADDITIONAL INFORMATION:

This species is listed as *Allium glandulosum* in “An annotated list of the vascular plants of the Chiricahua Mountains” (Bennett et al. 1996). It is listed as *A. rhizomatum* in Bowers and McLaughlin’s “Flora of the Huachuca mountains, a botanically rich and historically significant sky island in Cochise County, Arizona” (1996). This species is either really rare in Arizona, or it is very undercollected.

Revised: 1992-12-07 (DBI)
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1999-10-25 (DJG)
2002-07-26 (SMS)
2004-07-22 (SMS)

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